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# Income Inequality: Challenges for Measurement and Policy

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# Global income inequality

## *Part A: How are we doing?*

- Received wisdom + dissenting views
- Global perspective + example of Indonesia.

## *Part B: How can we do better?*

- Objectives and constraints; policy options
- Recommendations for thinking about better policies.

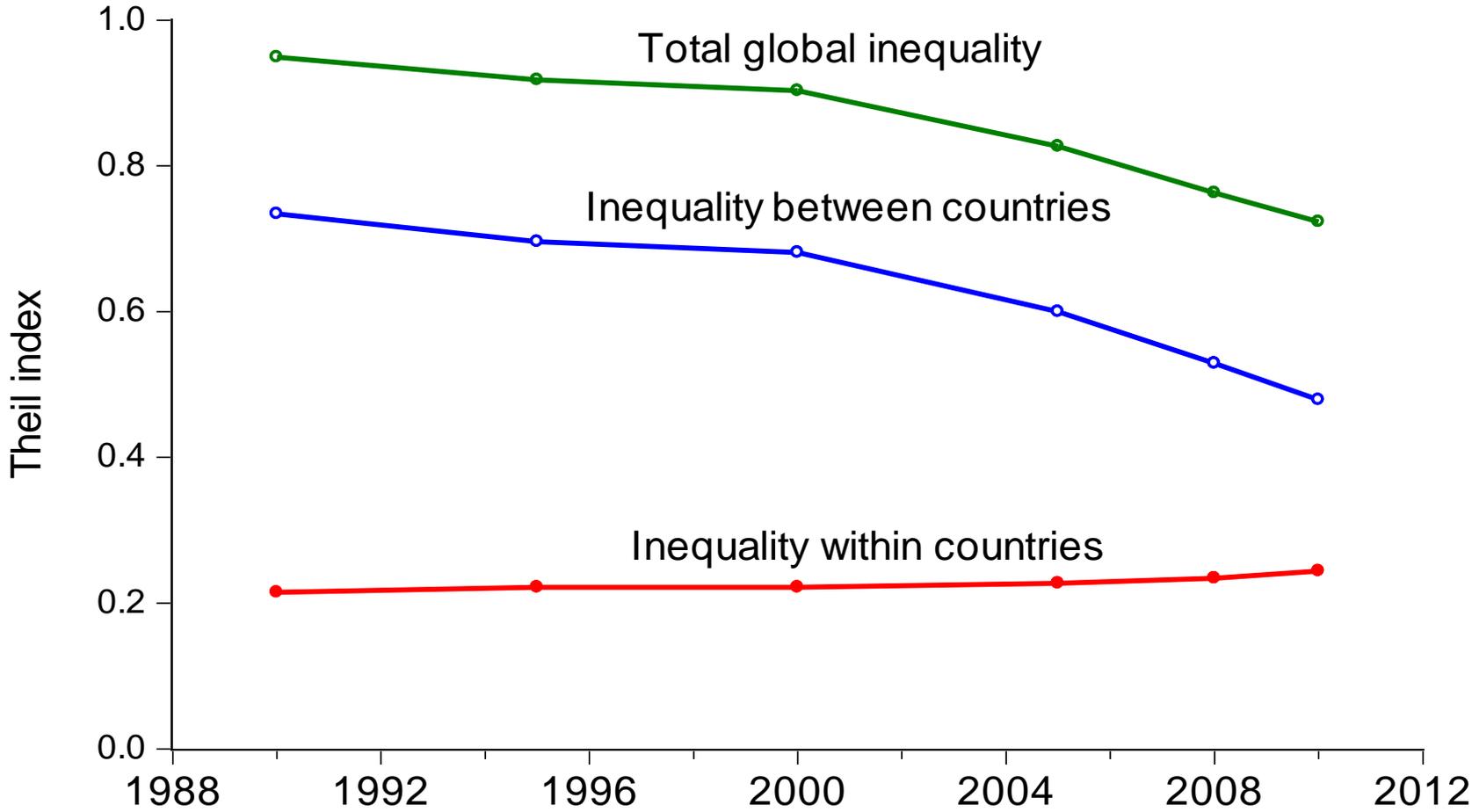
# Part A: How are we doing?

## First, the received wisdom

# A (super) short history of global inequality

- **Rising global inequality** from 1820 to about 1990.
  - Driven mainly by divergent growth processes: today's rich world takes off from the early C19<sup>th</sup> (though some late starters).
- The pattern changed dramatically toward the end of the C20<sup>th</sup>. **Falling global relative inequality in the new Millennium.**
  - Driven by convergent growth processes, esp., high growth in Asia.

# Global relative inequality since 1990



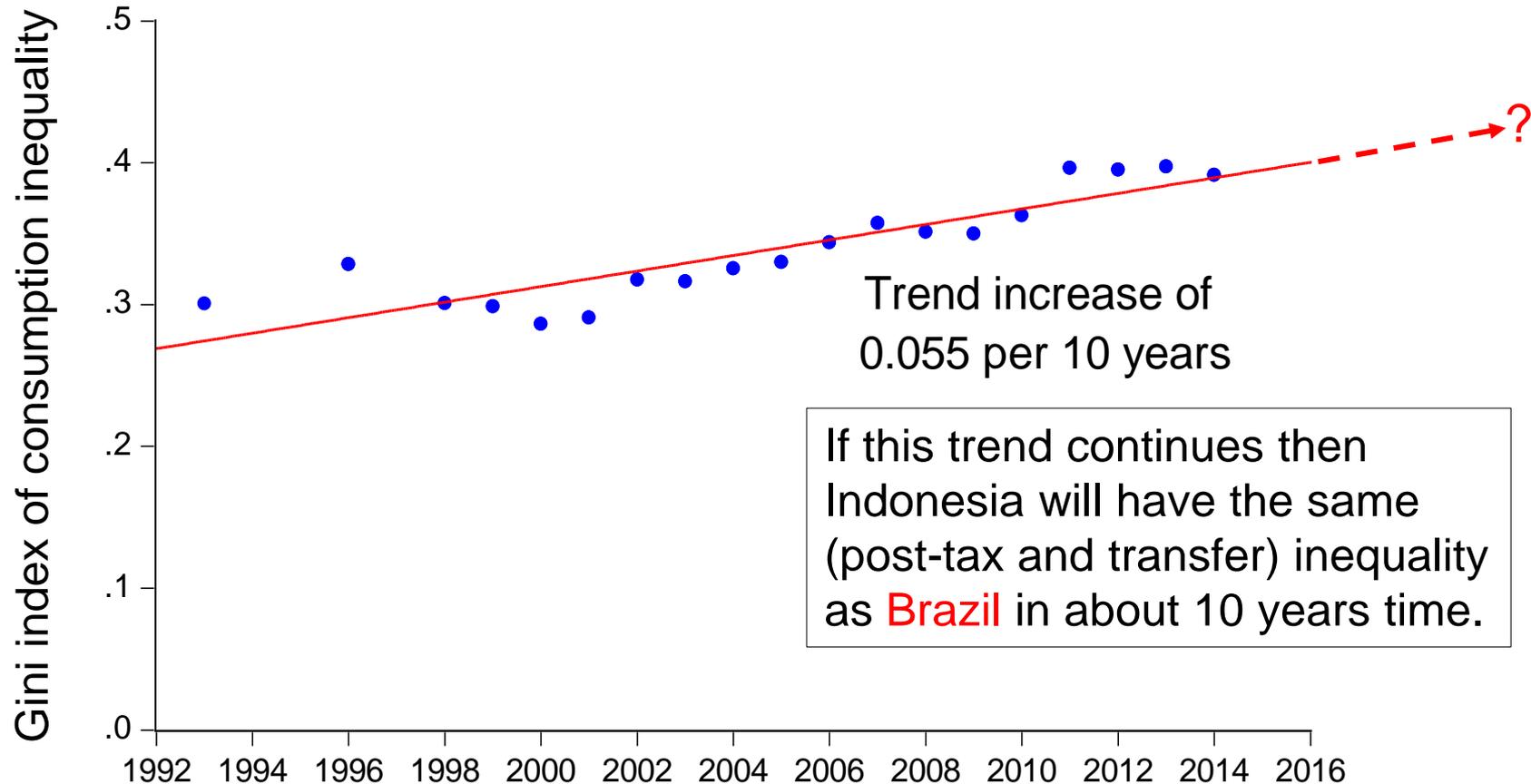
Source: Bourguignon (2016).

# Rising inequality within many countries, but not all

- Average inequality within countries has edged upwards since 2000.
- Famous examples of US, China (though signs of stabilization) and India. Also some newcomers; Indonesia =>
- But also falling inequality in some countries (famously Brazil).
- Signs of (slow) **inequality convergence**: inequality tends to rise when low, fall when high.
- All this assumes **anonymity**. Rising inequality based on cross-sectional surveys is consistent with **convergent income changes** in longitudinal data. Indeed, often observed.

# Rising inequality in Indonesia

After long period of stable/declining inequality since 1970



The received wisdom is out-of-step  
with popular thinking

# Three things are missing from the way economists measure “inequality”

1. Absolute inequality matters
2. The poorest matter
3. National income matters

1. Wake up call to economists:  
Many people care about absolute inequality,  
and they care about the extremes

# Absolute versus relative inequality

- **Relative inequality** is measured using the ratios of incomes relative to overall mean.
- **Absolute inequality** is about the absolute differences—the gap between rich and poor.
- Absolute inequality matters more to many people.
- Which is more unequal?
  - State A: (1, 2, 3)
  - State B: (2, 4, 6)
- Over **half** the students (n=450) say State B has higher inequality. Similarly for my **Twitter survey** (n=250).
- Yet most (relative) inequality measures (such as Gini index) say that there is no difference.

# Debates on inequality are often debates between absolutists and relativists

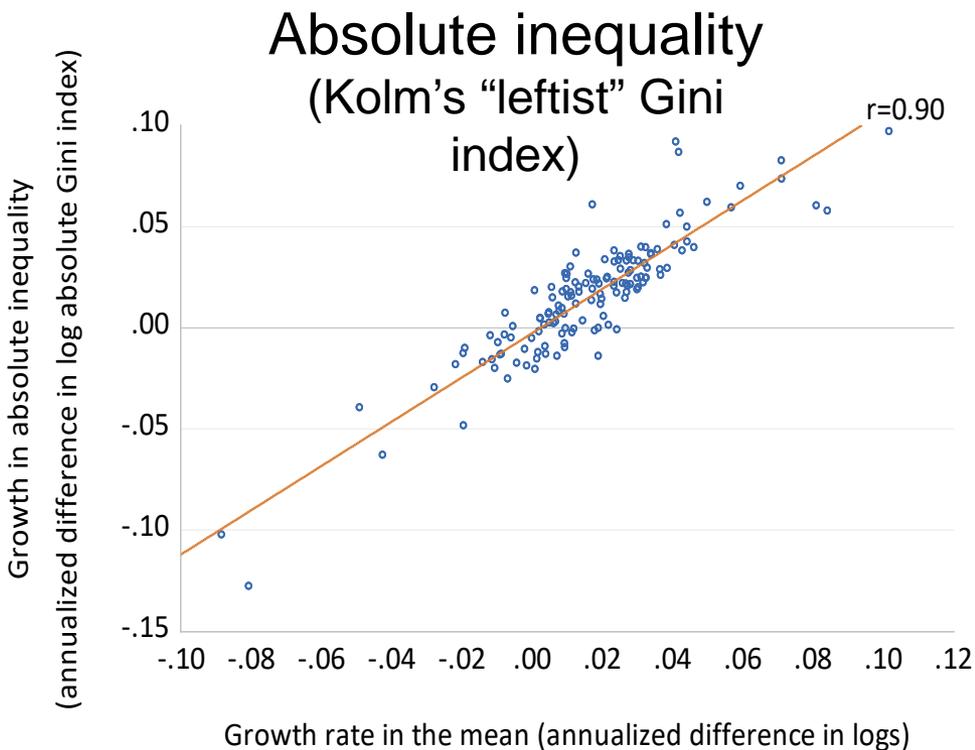
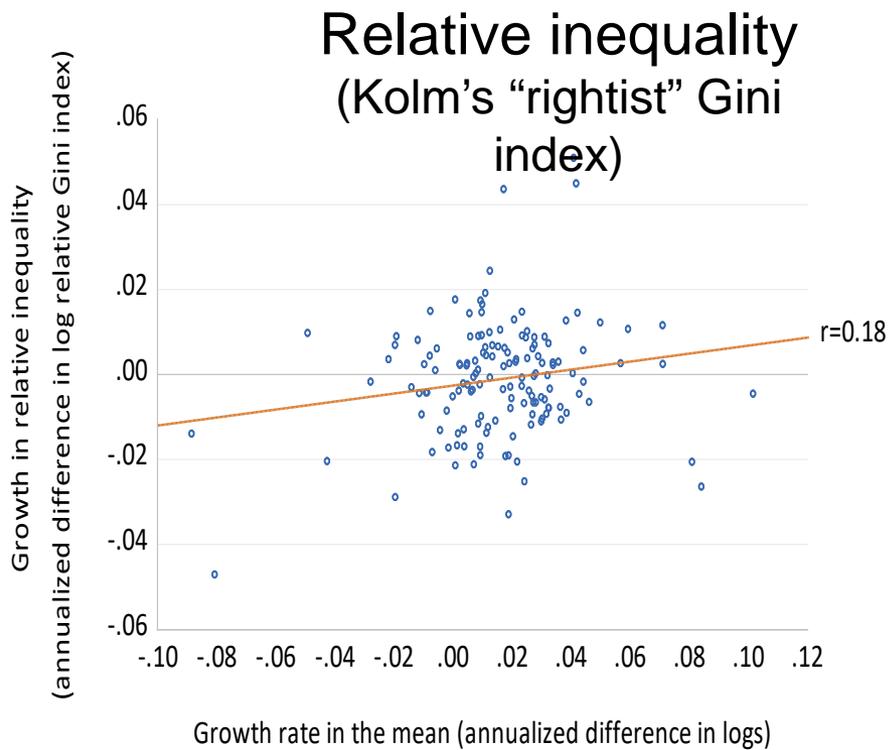
- Perceptions on the ground often differ to the numbers quoted by economists and statisticians!
- Serge Kolm and the “May 68’ers”: Grenelle agreement gave same relative gain (13%) to all. Many felt this was inequitable.
- At local level in developing world, absolutist NGO see rising inequality but relativist economist sees constant or even falling inequality.
- Neither is wrong: **Just different axioms of inequality measurement** (scale-invariance vs translation invariance).

# Falling relative inequality but rising absolute inequality globally

## Two Gini indices

		1988	2008
Relative Gini (scale invariance)	$\frac{1}{2n^2\mu_t} \sum \sum  y_{it} - y_{jt} $	0.72	0.71
Absolute Gini (translation invariance)	$\frac{1}{2n^2\bar{\mu}} \sum \sum  y_{it} - y_{jt} $	0.72	0.90

# Rising inequality in growing economies?



# The dilemma for absolutists!

- The tendency for absolute inequality to rise with growth points to a trade-off between reducing absolute inequality and reducing poverty.
- Those who see inequality as absolute, and give high priority to reducing it, may well find themselves living in an absolutely poorer world.
- Greater clarity is needed on what trade-offs one is willing to accept between reducing absolute inequality and reducing absolute poverty.

# Nor is the “transfer principle” universally accepted

- Pigou-Dalton transfer principle: “mean-preserving transfers from rich to poor reduce inequality”
- This seems very sensible. However, a sizeable minority of my students and Twitter respondents think that (2, 5, 5, 10) is more unequal than (2, 4, 6, 10).
- Yet almost all think that (2, 4, 6) is more unequal than (3, 4, 5).
- Why? People look at the **high and low ends** of the distribution. *How far are the extremes from the middle?*

2. An important aspect of inequality:  
Are the poorest left behind?

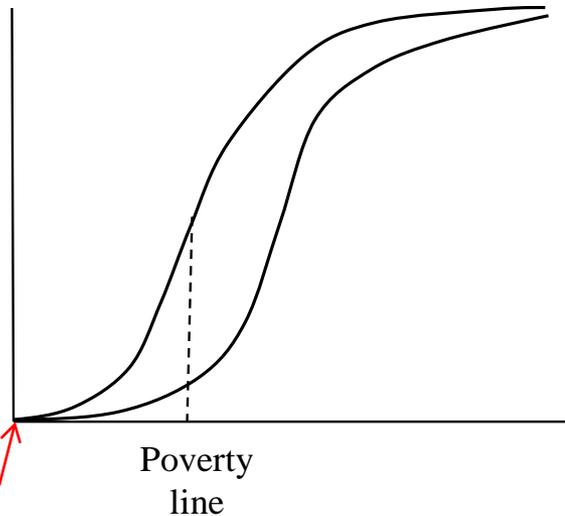
# Conflicting views

- *“The poorest of the world are being left behind. We need to reach out and lift them into our lifeboat.”* U.N. Secretary-General Ban Ki-moon, 2011
- *“Poverty is not yet defeated. Far too many are being left behind.”* Guy Ryder, ILO
- Yet economists appear to tell a very different story. Adages such as *“a rising tide lifts all boats”* or claims that *“growth is good for the poor”* or that there has been a *“breakthrough from the bottom”*

How can we understand such different claims?

# Counting poor people may miss what is happening to the poorest

Cumulative % of population

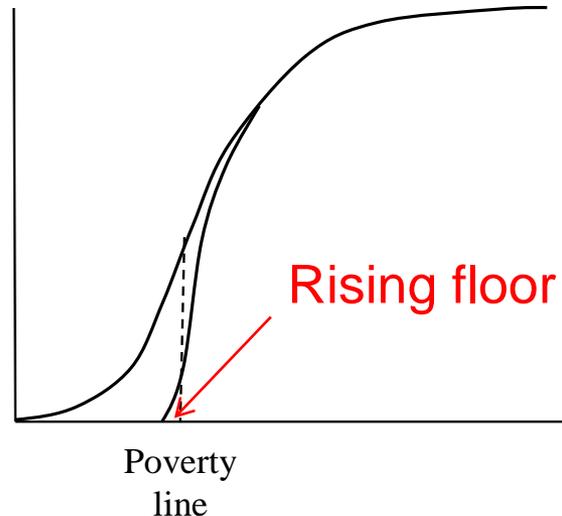


Floor stays put

Poorest left behind

Measure of welfare

Cumulative % of population



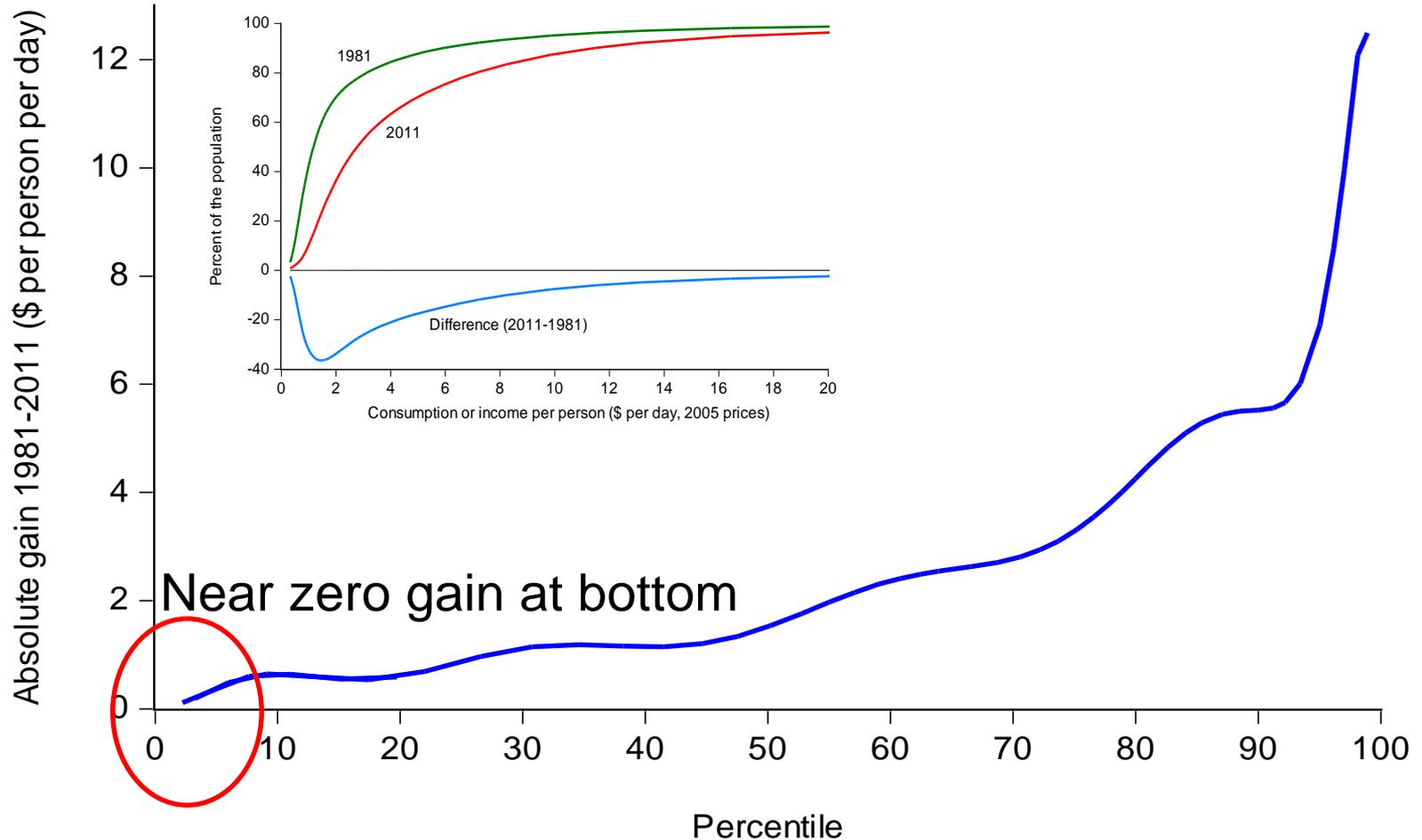
Rising floor

Same reduction in the incidence of poverty but without leaving the poorest behind

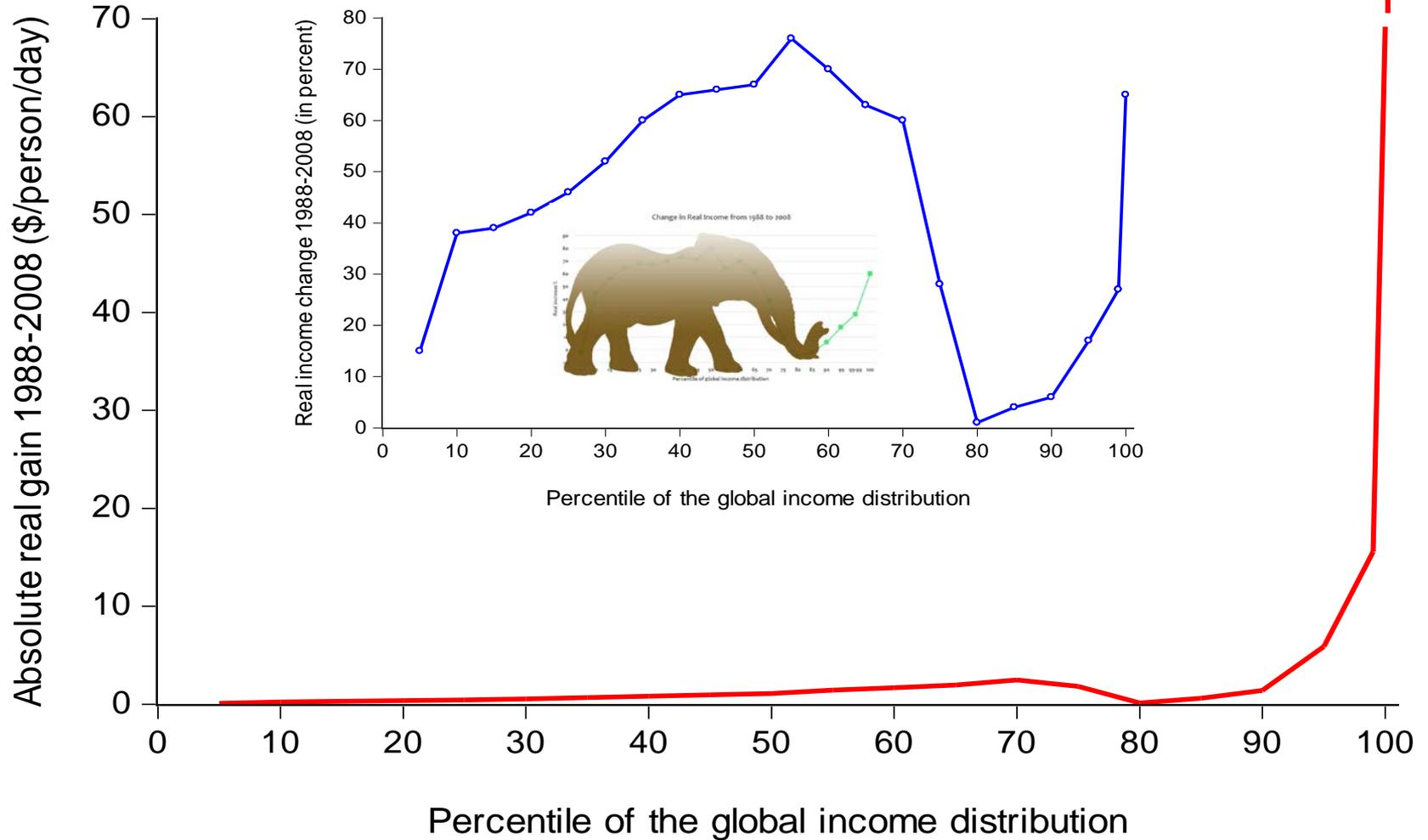
Measure of welfare

# Yes, the poorest have been left behind!

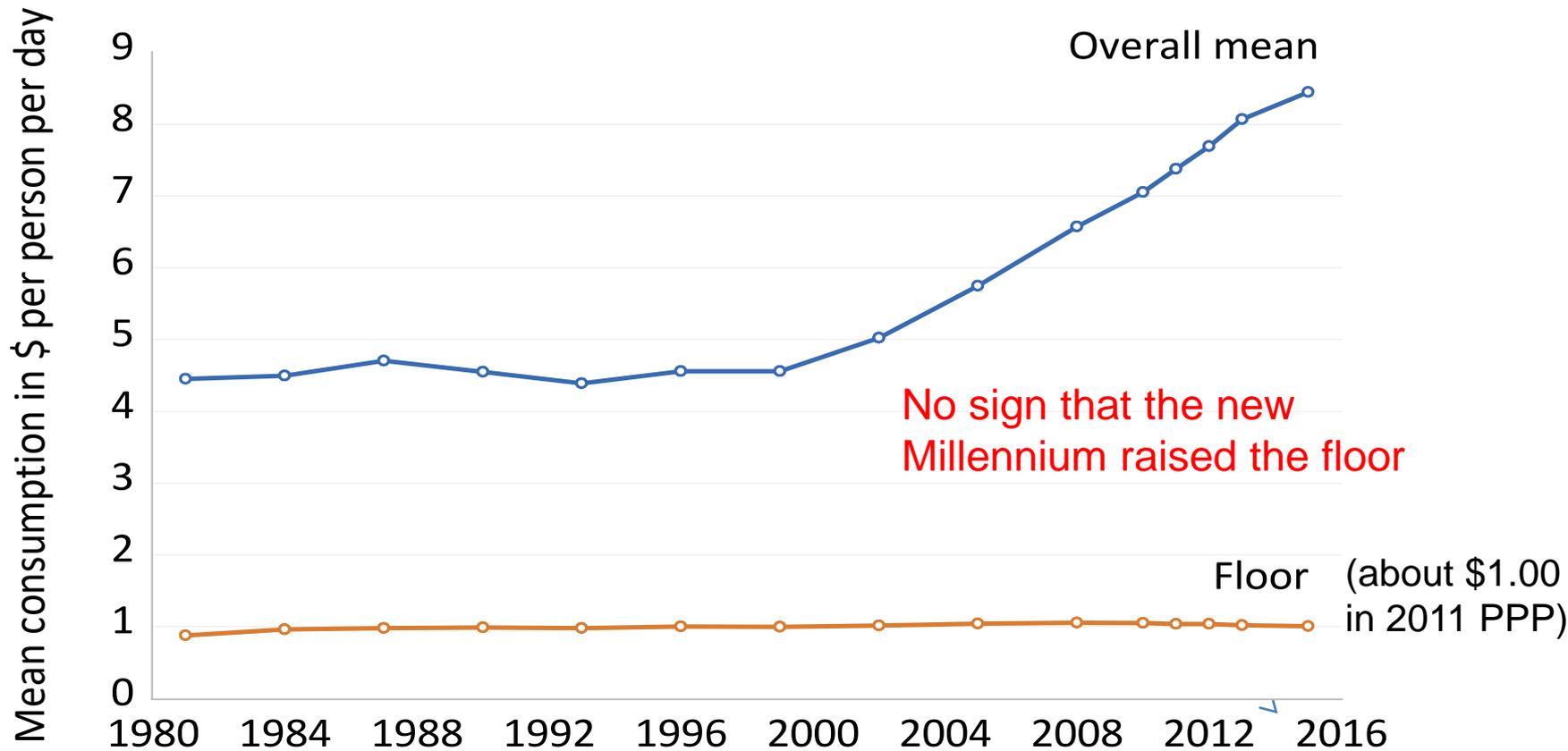
Fewer people living near the floor, but little change in the floor



# Globally: Branko's Elephant or Martin's serpent?

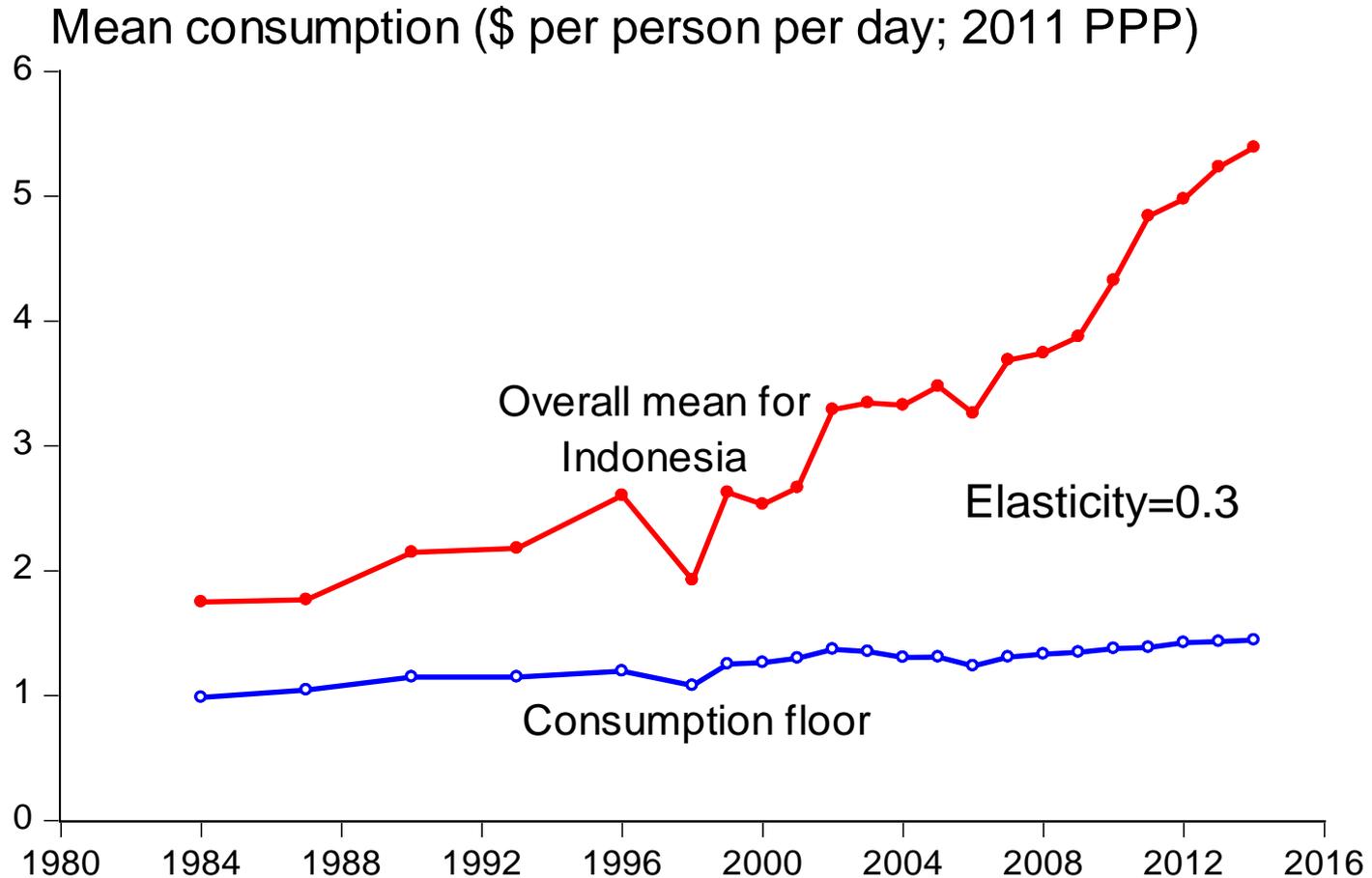


# Much less progress in raising the consumption floor globally



Source: Update to Ravallion, "Are Poorest Left Behind?" *J. Econ. Growth*, 2016.

# Indonesia has made somewhat more progress in raising the floor



### 3. Measuring global inequality when national income matters

# Relative income hypothesis => Negative effect of living in a richer country

- This postulates that individual welfare depends on how the individual is doing relative to a set of comparators.
- In this context, a higher mean in the country of residence is taken to give disutility at given own-income through perceptions of relative deprivation.
- In sociology: Davis (1959) and Runciman (1966).
- In economics: Duesenberry (1949), Easterlin (1974), Frank (1985), Rayo and Becker (2007), Clark et al. (2008).

# But also arguments for a positive welfare effect of higher mean at given own income

- Limitation of the measures used for “own-income”
  - We would ideally measure real income over a longer time period than that for which current income is measured in surveys.
  - Access to public non-market goods is typically excluded.
- Higher national mean may reflect higher longer-term welfare.
- **Wagner’s Law**: Richer countries have better public services (Musgrave, 1969; Peacock and Scott, 2000; Akitoby et al., 2006; Afonso and Alves, 2017).
- Richer countries tend also to be less prone to costly forms of **insecurity and civil conflict**.

# Higher global inequality when one allows for gains from living in a richer country

- If one defines economic welfare in terms of relative income alone then one sees far less inequality in the world than if one puts a sizeable value on the external benefits of living in a richer country.
- However, this changes dramatically when one allows a positive value of national income (at given own-income)
- Living in a richer country brings benefits in terms of access to non-market goods and services, and better opportunities for private support in times of need.
- We can't ignore this when talking about "global inequality."
- *How much does this change the received wisdom on global inequality?*

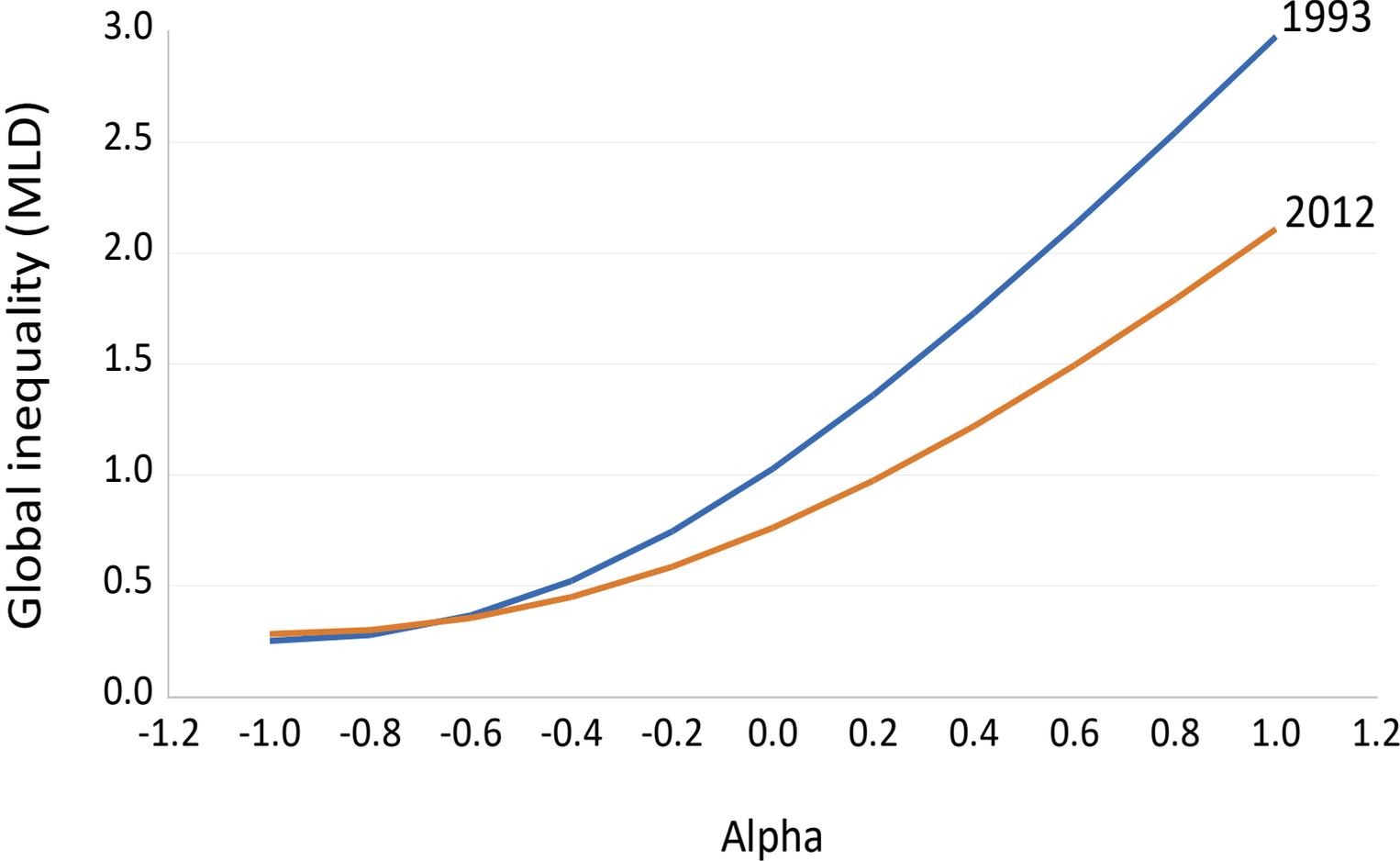
# Individual real income when mean matters

- Let  $y_{ijt} > 0$  denote the income of household  $i$  in country  $j$  at time  $t$ . We can treat  $y_{ijt}$  as a continuous random variable, and also presume that its values have been normalized for prevailing prices.
- Let  $m_{jt}$  be the corresponding mean in country  $j$  where  $m_t$  is the global mean with a global population size of  $n_t$ .
- Global inequality is then measured here for the distribution of **mean-adjusted real income**  $y_{ijt}^*$  defined by:

$$\ln y_{ijt}^* \equiv \ln y_{ijt} + \alpha \ln m_{jt}$$

- The parameter  $\alpha$  reflects the extra value attached to national income, i.e., its weight relative to own-income. (Any instrumental value of a higher mean is taken to already be reflected in  $y_{ijt}$ .)

# Falling global inequality for $\alpha \geq -0.66$



# The national income effect swamps other sources of error

- From what we know based on past global studies using micro data, the national income effect could well be **50%** or more of the own-income effect on subjective wellbeing.
- Then global inequality is far higher than prevailing measures suggest, and far higher than found in even the most unequal country.
- The differences in levels of inequality due to even rather modest differences in how one values national mean income tend to swamp the differences seen **over time** in standard measures, or the differences we see **between countries**,
- and are also large relative to the impact of even a substantial **underestimation of the incomes of the rich**.

# But one still finds falling global inequality

- The stylized fact that overall inequality has been falling since around 1990 is not robust, though one only finds rising inequality with a high negative weight on national income, such as due to relative deprivation.
- The finding of falling between-country inequality since 1990 is robust whatever value (positive or negative) one attaches to national income in assessing individual economic welfare.

# Part B: How can we do better?

# Two challenges ahead

- *Motivational challenge: Should we care about inequality and relative poverty as well as absolute poverty?*
  - The intrinsic (ethical) and instrumental arguments for why we need to also worry about inequalities.
- *Policy challenge: How might we have greater success against inequality?*
  - Poor performance of current policies esp., in developing world; objectives and constraints on better policies; policy options.

# *Why do we also care about inequality?*

- “Inequality” is too big a word! Needs to be un-packed to inform public action.
- Ethical concerns about:
  - **fairness of processes**, such as unfair trades
  - **unequal opportunities in life**, esp. from conditions of birth
  - unequal **outcomes** in life; utilitarian objections and/or implications for the next generation
  - objectionable **specific inequities** (ethnic, gender, geographic) especially if due to **discrimination**.

# *Why do we care?* Costs of inequality

- High inequality threatens prospects for future economic growth, and dampens the impact of growth on poverty.
  - Credit constraints facing the poor and middle class.
  - Political impediments to reform and public good provision.
  - Social costs of higher crime, weaker social cohesion.
- Countries starting out with high inequality have a **harder time growing their economy**, and a harder time assuring that their growth is **pro-poor**.

# Policies to help assure pro-poor growth

# Economic growth and inequality

- Growth has been roughly distribution neutral on average
  - Falling inequality in some growing economies and in some periods (Indonesia 1970-90)
  - But rising in other countries/periods (Indonesia since late-1990s).
- Growth has been the main proximate source of progress against absolute poverty.
- But very mixed evidence that it helps much against relative poverty or relative inequality.
- And growth tends to come with higher absolute inequality.
- Some degree of redistribution may be good for growth in market incomes and can also finance pro-poor policies.
- Making markets work better for poor people is also key.

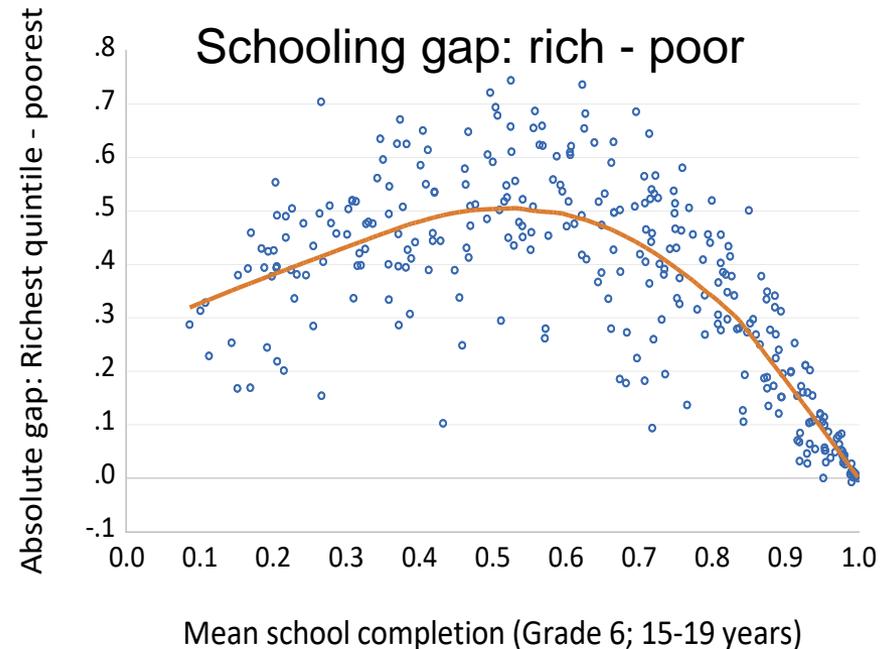
# How to achieve more pro-poor growth?

Literature and policy discussions point to the need to:

- Develop human and physical assets of poor people => quality services
- Make markets work better for poor people (credit, labor, land)
- Remove all negative discrimination (race, gender)
- Remove biases against the poor in public spending, taxation, trade and regulation
- Invest in local public goods/infrastructure (not neglecting poor areas) + agriculture and rural development
- Remove restrictions on migration (between and within)
- Foster labor absorption from urban economies, esp., small and medium sized towns

# Human development and inequality

- Socio-economic gradients in schooling and health care everywhere help perpetuate poverty and inequality across generations.
- Generalized gains in schooling can be inequality increasing initially; need for focusing on poor families.
- Log earnings are linear in years of schooling. So earnings inequality rises with extra schooling in poor countries.
- For a country such as **Indonesia**, education expansion (quality and quantity) tends to be pro-poor.



# Redistributive policies to complement pro-poor growth

# Lessons from the advanced economies

- Fiscal incidence studies suggest that redistributive policies—mainly taxes and transfers—have reduced inequality substantially (OECD, IMF).
  - Average Gini for market incomes = 0.49
  - Average Gini for disposable income = 0.31
- (Though redistributive effort has not typically increased with the higher inequality of market incomes since mid-1990s.)
- The types of policies have varied over the history of the (current) advanced economies, in line with administrative capabilities and aggregate resources.

# Fiscal incidence in Indonesia

- Fiscal incidence studies: Indonesia does less redistribution than found in Latin America, but it also has less inequality.

Gini	Market income	Final
Indonesia	0.39	0.37
Brazil	0.58	0.44

(Lustig, 2016)

- Indonesia devotes 5% of GDP to social spending (transfers, pensions, health and education) vs. 24% in Brazil.
- Energy subsidies favored over transfers in Indonesia.
  - High government revenues from the commodity boom 2003-12.
  - But too much went into **energy subsidies**, favoring non-poor.
  - 4% of GDP on energy subsidies vs. 0.4% on targeted transfers.

# Rising use of direct interventions in the developing world

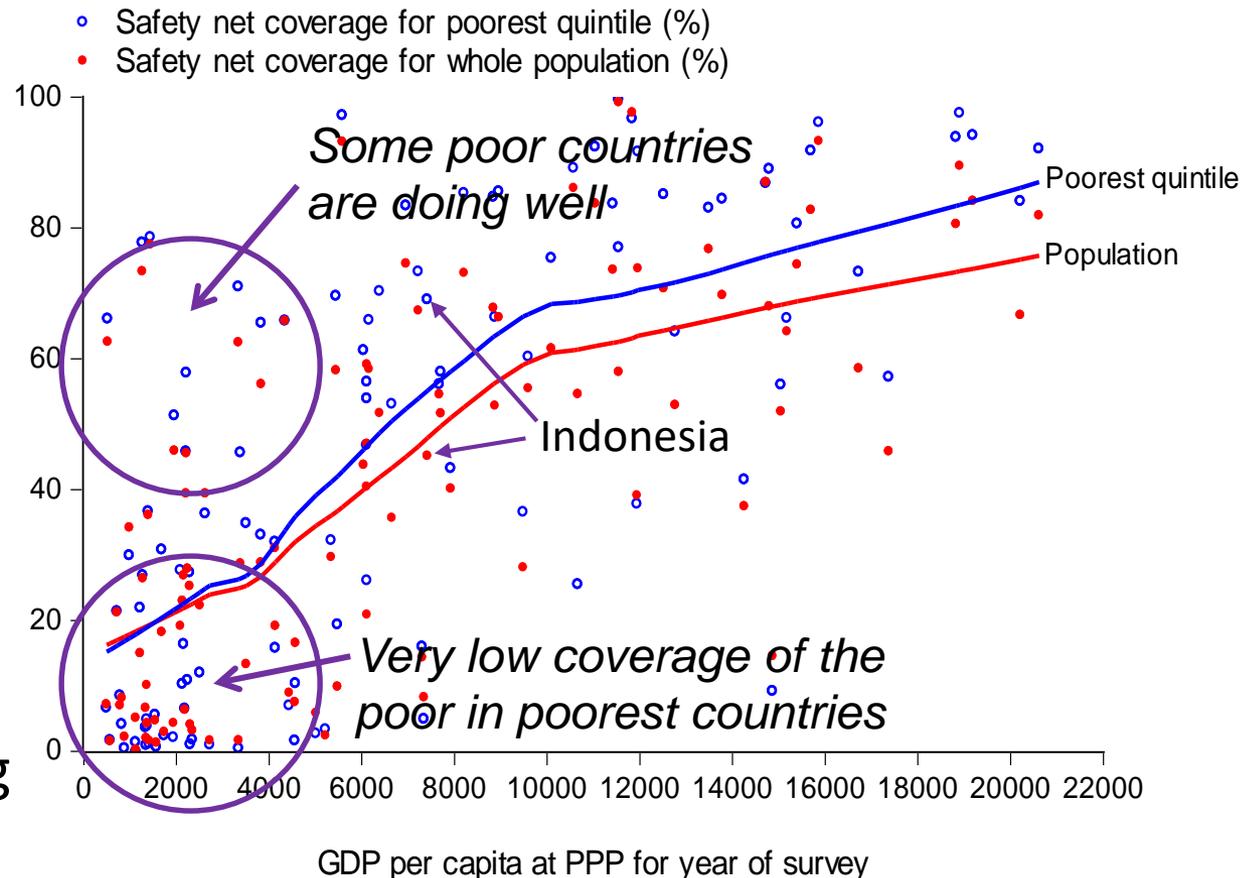
- Two main forms:
  1. Direct non-contributory income transfers to poor or vulnerable families; with or without **conditions**.
  2. Workfare schemes use work requirements for targeting.
- Today almost every developing country has at least one such program, though often with limited coverage.
- Roughly **one billion** people currently receive assistance.

But are these interventions reaching the poor?

# Uneven coverage of poor people

The share of the poorest 20% receiving help from the social safety net (SSN) programs in developing countries.

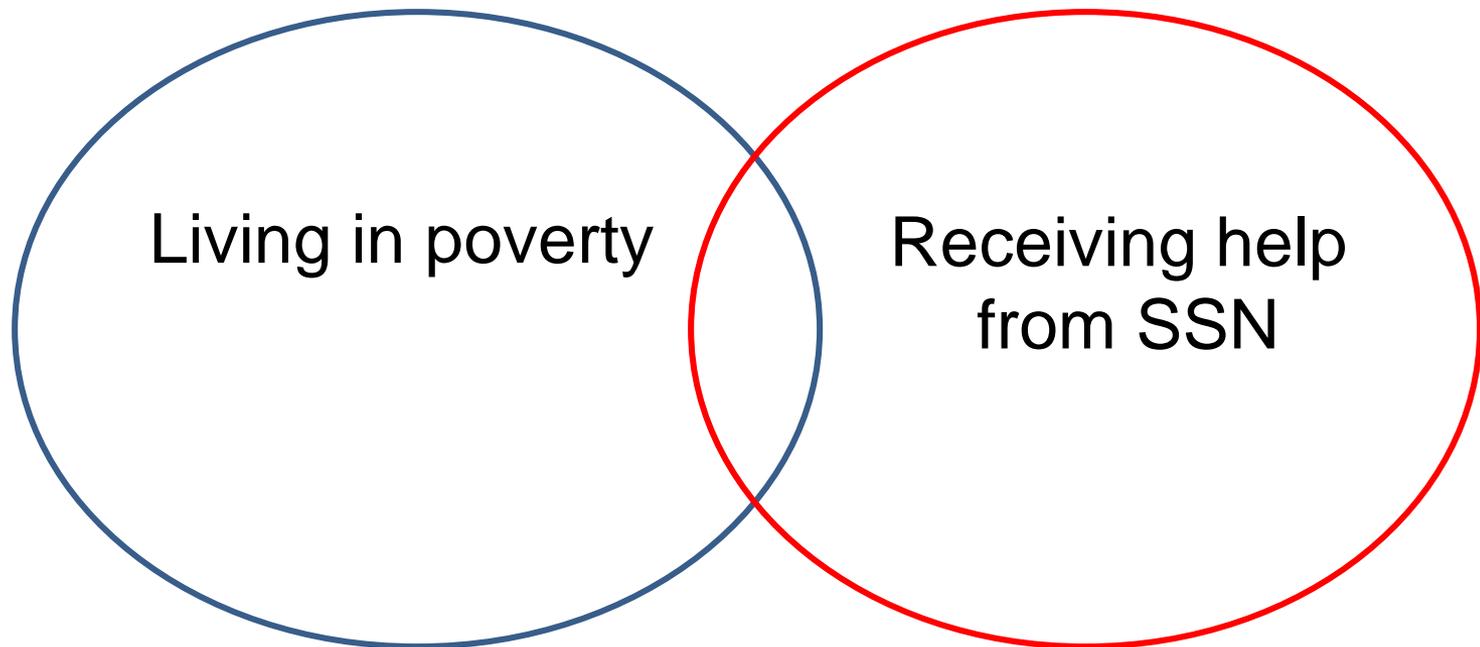
- Only about one third of those in the poorest quintile are receiving help from SSNs.
- And worse performance in poorer countries.
- Indonesia is doing relatively well.



Source: WB's ASPIRE data set

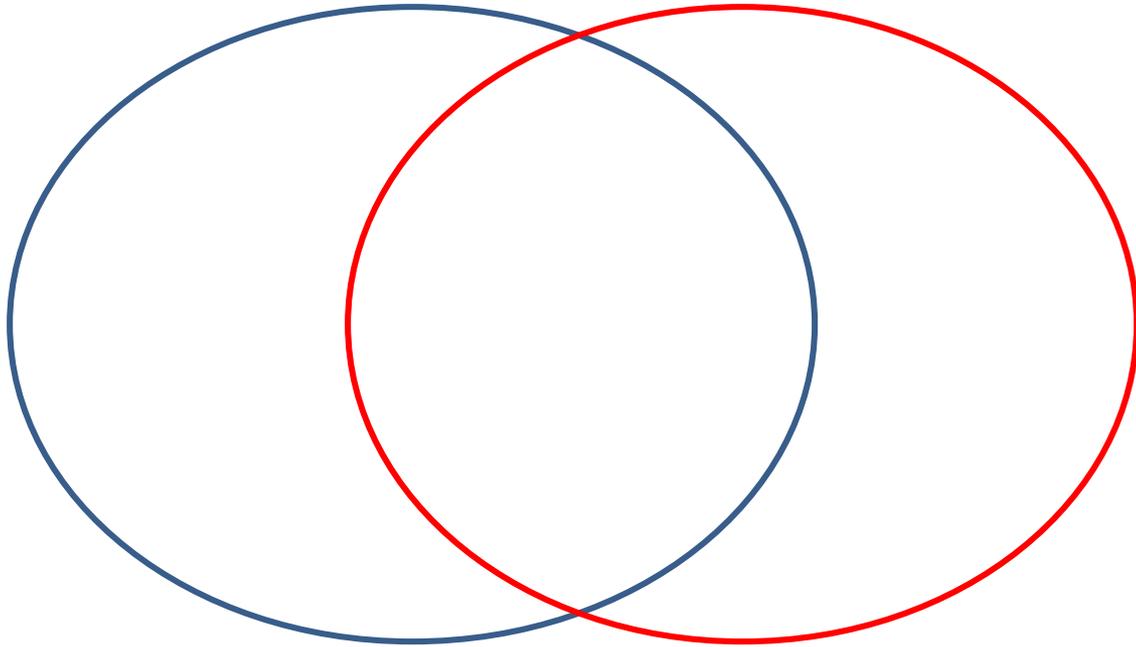
SSN=Non-contributory transfers targeted to poor and vulnerable people.

One billion poor;  
one billion SSN recipients



But mostly not the same people in poor countries!

Less poor countries tend to be better at reaching their poor by these policies

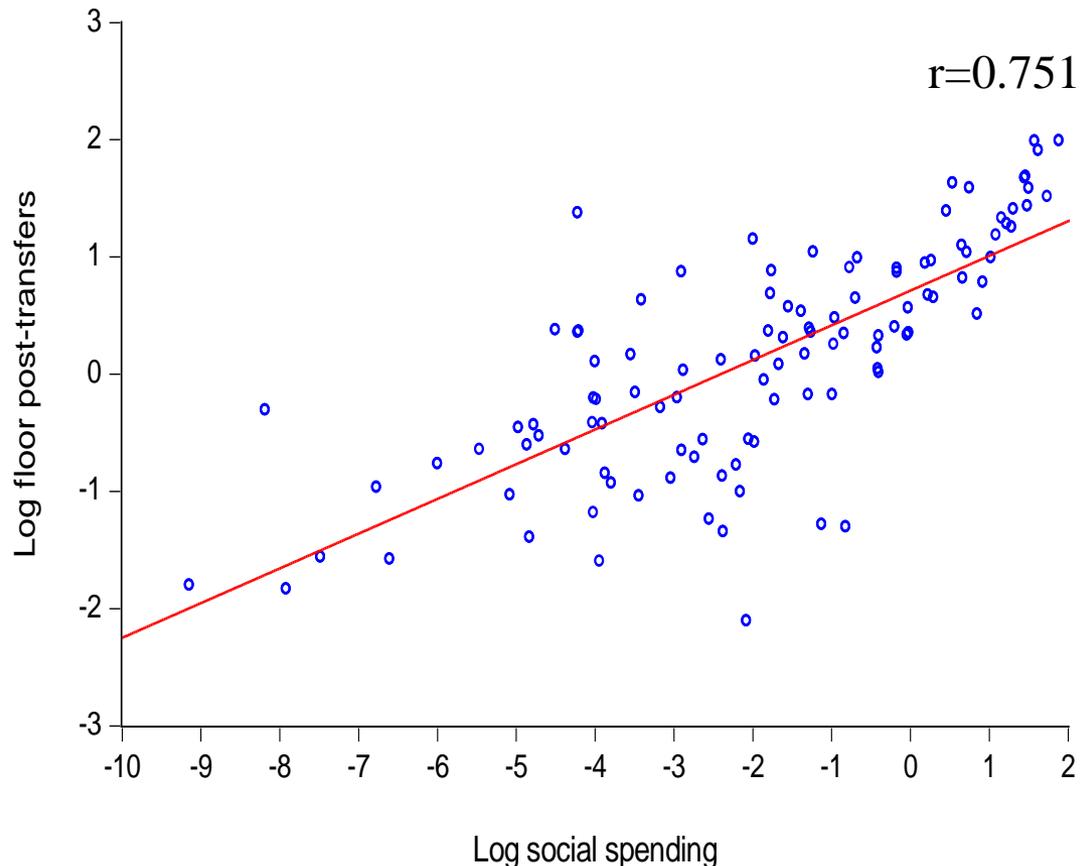


# *Reaching the poorest?* SSN lifts the floor by \$0.48 a day, but almost all is social insurance

- Social spending lifted the floor by \$0.48 per person per day on average, well below the mean spending per capita of \$0.88 a day.
- This is worse than a UBI.
- The bulk of this impact is due to social insurance; social assistance on its own only lifts the floor by **1.5 cents per day** on average!
- This is less than 10% of mean spending on social assistance.

# Is it spending more or spending better that lifts the floor?

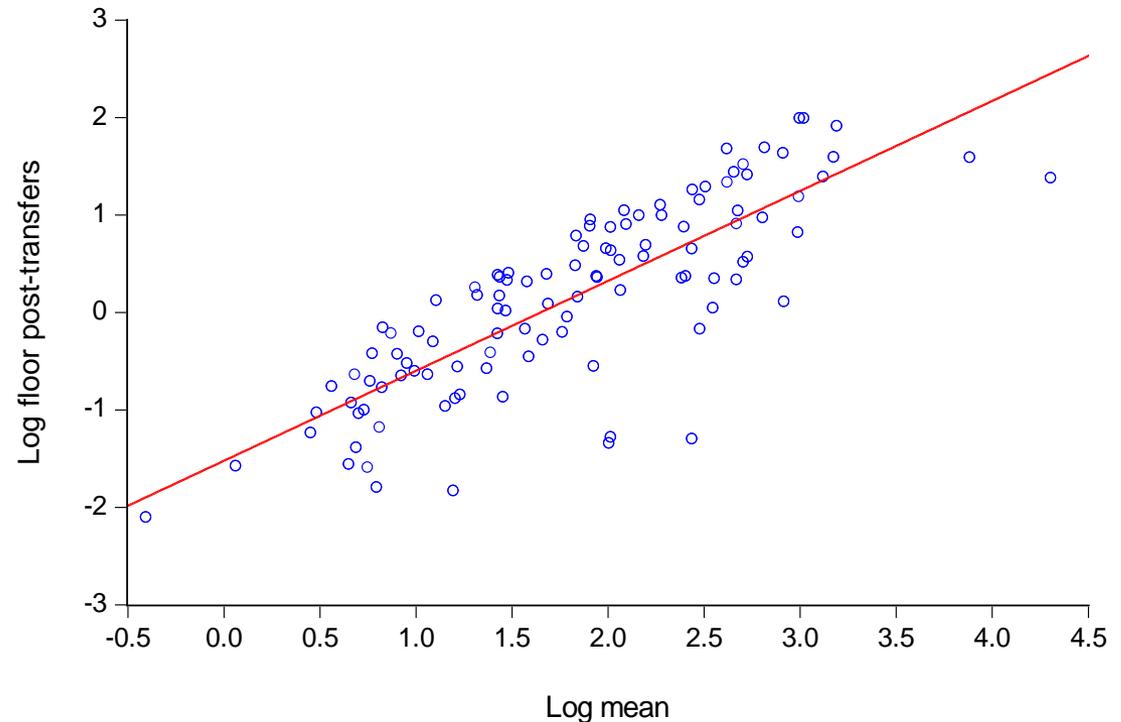
- Countries that spend more on social protection tend to have a higher floor



- The bulk (77%) of the variance is due to variance in **levels of social spending** rather than the efficiency of that spending.

# Richer countries have a higher floor

- This reflects both higher social spending in richer countries, and a direct effect at given spending.



- The bulk (74%= $0.686/0.923$ ) of the effect of economic development on the floor is direct, via the pre-transfer floor

# A new role for redistributive interventions, but many challenges ahead

- Success against relative poverty and in raising the floor will almost certainly require **more effective redistributive policies**.
- Constraints include information, incentives, financing and political economy. **Administrative capacity** is key.
- High marginal tax rates on the poor must be avoided; **poverty traps** due to fine targeting.
- **Information constraints** can be severe. Reliable fine targeting is rarely feasible in practice in developing economies.
- Method of **financing** is key to overall impact.

# A menu of current policies

- Public services (health, education, security)
  - Targeted or universal
- Cash transfers
  - Targeted, state-contingent) or universal
  - Conditional (e.g., PKH) or unconditional
- Microfinance
  - Mixed record
- Workfare schemes
  - Low wage rate
  - Assets of value to poor people
- Minimum wage rate (if enforceable)
- Progressive income tax
- Stronger tax enforcement on companies and the rich

# A policy proposal to consider seriously, for both pro-poor growth and redistribution

- **Basic full income**
  - Universal; all citizens (“poor” or not)
  - Cash plus imputed values of key in-kind services (health, education)
  - Cash accumulates in an account for children until age 18 (say)
- Financed by cutting other subsidies and programs that bring little benefit to the poor
- + progressive income tax when administratively feasible
- Supportive ID system (e.g., *Aadhaar* in India, but privacy concerns need to be addressed).

# Six recommendations



1. Tailor policies to the realities of the setting
2. Tap local information + effective state support
3. Focus on poverty not finer “targeting” *per se*
4. Protect and promote
5. Monitor and evaluate
6. Learn from mistakes

Thank you for your attention!  
Merci de votre attention!